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ABSTRACT

Growth or development affects a rural community in three separate but interrelated areas: private, social, and public sectors. Private impacts are economic shocks to businesses and citizens of the community. Social impacts affect the community structure as well as individuals within the community, i.e., increased property tax costs may create hardships for young residents who wish to purchase housing, as well as for older residents on fixed incomes. Public sector is impacted by growth because elected officials are ultimately responsible for coping with changes in the community. Officials must deal with increased demands for public services and rising property tax rates, planning, and zoning decisions. Because of the importance of public sector decisions, it is essential that officials carefully analyze the potential impacts of growth. This publication attempts to provide a simple framework that can be used by officials and citizens to assess the effect of a specific development on public sector costs and revenues over time. (AH)

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Coping with Growth

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Assessing Fiscal Impact of Rural Growth

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Introduction

Growth or development affects a community in three separate but interrelated areas: private, social, and public sectors. *Private impacts* are economic shocks to the businesses and citizens of the community.

Social impacts affect the community structure as well as individuals within the community. Hard feelings between groups may hamper community integration if the incoming population is from another area of the country, or will be earning wages significantly above or below the present average wage rate in the community. Incoming population may also increase the demand for housing. In conjunction with potential property tax increases to provide new services, increased housing costs may create hardships for young residents who wish to purchase housing, as well as for older residents on fixed incomes.

The public sector is impacted by growth because elected officials are ultimately responsible for coping with changes in the community. Community officials must deal with increased demands for public services and rising property tax rates, as well as planning and zoning decisions.

Action by the public sector can often reduce many of the negative impacts or costs to the private and social sectors. For example, expansion of capital facilities, properly planned and timed to accommodate the actual change in population, can help control tax increases. Action on zoning and building permits can influence the availability of adequate housing, as well as water and sewer costs.

Because of the importance of public sector decisions, it is essential that officials carefully analyze the potential impacts of growth. Often these officials will be required to make decisions on multimillion-dollar budgets with common sense to guide them—and very little information. This publication attempts to provide a simple framework that can be used by officials and citizens to assess the effect of a specific development on public sector costs and revenues over time. "Growth Impacts on Public Service Expenditures: Some Questions for the Community" and other publications in the Coping with Growth series produced by the Western Rural Development Center might also be helpful in this type of fiscal analysis.

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Fiscal Analysis Framework

To answer the types of questions raised above, a community faced with the prospect of growth must examine at least three questions:

- How many people are expected to move into the community, how long will they stay, and where will they live?
- What costs will be generated providing public services and expanded capacities of public facilities to accommodate the growing population, and when will the costs be incurred?
- What revenues will be generated by the growth, and when will the revenues be available?

The Incoming Population

The size of the incoming population (and its relationship to the size of the community), average income, family size, and other demographic information are important determinants of the impact the community can expect. The incoming population can be divided into primary and secondary population. The *primary population* consists of persons directly associated with the source of growth, such as a worker at a new industrial plant or a family in a new residential subdivision. If an industry is relocating in the community, it can sometimes provide information on the size of the work force necessary to construct and operate the plant, as well as the number of jobs available and type of skills needed. If the growth is due to a new residential subdivision, estimates must be made concerning how much of the development will satisfy existing housing needs within the community, and how much will be occupied by new residents.

Once the size of the primary population change has been estimated, information is needed on:
(a) the income of the population (e.g., the average annual wage if the population will be employed at a new industrial plant), and
(b) the family size of the new population and number of school-age children. This information may be available from the new employer or estimated based on state or regional averages.

The *secondary population* increase, consisting of workers (and their families) required in other sectors of the local economy to provide services for the incoming population, must also be estimated. (Often the Extension Service will have access to economic models—such as input-output or economic base models—that can be used to estimate changes in all sectors of a local economy resulting from an initial change in one sector. Employment multipliers, for example, refer to the total additional employment stimulated by the new activity.) With information on unemployment in the local community, estimates of new employment, and the worker/population ratio, total population change—both primary and secondary—can be estimated.

Table 1. Estimating additional operating and maintenance costs and capital costs associated with incoming population for services commonly provided by communities.

Public Service	Operating and Maintenance				Capital		
	current costs (a)	costs per capita (b)	size of incoming population (c)	change in costs (b x c)	capacity needed	anticipated expenditure	
						year	amount
general government							
education							
judicial							
law enforcement							
fire							
libraries							
public works							
roads							
sewer							
water							
solid waste							
health							
welfare							
other							

The provision of public services (and associated costs) depends not only on the size of the incoming population, but also on its location. If the incoming population is expected to live within the boundaries of the community, services such as sewer and water might be provided. If the incoming population is expected to live outside community boundaries, sewer and water might be provided by the individual with septic systems and wells at no cost to the community—but school busing, road maintenance, and police and fire protection costs can be expected to increase.

The location of the incoming population will depend on the availability of houses and housing lots within and surrounding the community. Land use plans or zoning regulations as well as planned and existing subdivisions may provide indications of the most likely locations. Information should also be available on the existence of roads and utilities within the subdivisions.

Providing Public Services to New Residents

Table 1 contains a list of services commonly provided by the community and a worksheet for computing costs. The actual provision of services will depend to some extent on the individual community. Costs to be considered can be divided into two categories—operating/maintenance costs and capital costs.

Operating/maintenance costs can often be estimated for the incoming population by examining the community budget. The total operating/maintenance cost for each service divided by the existing population represents the present per capita cost of providing each service. This per capita cost can be multiplied by the estimated size of the incoming primary and secondary population to provide a *minimum estimate* of the total additional operating/maintenance costs associated with the new population. It should be recognized that this "average cost pricing" procedure may not accurately reflect the true cost of providing services to the incoming population for at least three reasons:

- Community services are "lumpy;" that is, a community cannot acquire one-tenth of a firetruck. Once a firetruck is purchased, it may be capable of servicing an area larger than the present community. If this is the case, the incoming population may actually reduce the per capita cost of providing fire protection. As the population continues to increase, however, the "excess capacity" of the firetruck will be used up, and purchase of another firetruck will become necessary. For this reason, the present average cost may approximate the minimum average cost for the new population over time.

- Averaging the cost of providing services does not take into account the quality of existing services. For example, if the police force serving the community could serve more people without increasing the size of the police force, then it is likely that police protection is better than average in the community. Serving the new population requires additional time by policemen and thereby reduces the protection given to the existing population. This reduction in police protection can be viewed as a cost to the community. Average cost pricing for existing services assumes that the community wishes to maintain the current quality of services.

- The average cost per capita of providing services may change as the community grows. Some services such as solid waste disposal may exhibit *economy of size*. That is, as the community grows, the average cost per capita to provide the *same* quality service will decrease. The per capita cost of other services—like law enforcement—may increase as the community grows. This may be the result of inefficiency as the community grows, or it may be the result of changes in the quality of services demanded. Special units like narcotics or homicide, or special equipment (like radar) may be added that benefit all, but increase the cost of protecting each citizen.

These problems associated with averaging the operating/maintenance costs serve to illustrate some of the difficulties in determining the cost of providing community services to new residents. They also illustrate the need for community officials who are most familiar with the provision of services to participate in the fiscal analysis. These officials should be the ones who can best judge which costs will increase, which will remain the same, and which will decrease. The primary benefit of applying the average cost to the incoming population is that it is a simple method that can be used by any community to obtain a rough estimate of increased costs.

Two additional points should be made about operating/maintenance costs. First, per capita health costs may decrease—especially in rural communities—as the population increases. An increase in the use rate may bring the hospital closer to the national standard of 80 percent bed occupancy. In addition, it may be easier to recruit and hold medical professionals as the population increases.

Second, education costs, generally representing the largest single cost item in the community budget, are closely tied to population size—or more specifically, student numbers. Accurate cost information is often available either locally or at the state level.

Capital costs. Estimating the impact of incoming population on the capacity of existing capital facilities—such as school buildings or sewage treatment plants—poses many of the same problems as estimating the impact on operating/maintenance costs. Local officials must estimate the capacity of existing services, and then judge which services will require new capital investment. Judgement must also be used in determining what portion of the new capital expenditure should be paid by the incoming population. The total expansion investment cost divided by the expected number of new residents gives the investment cost per new resident.

Even a rough estimate of the capital cost of new facilities may often be difficult for local officials to obtain. Information is available from the Extension Service on the average capital cost of providing selected services based on the size of the community. Consultants and local public employees may also be able to provide estimates. For example, the state superintendent of schools may have information on the required floor space per student and the average cost per square foot of floor space. However, averages may severely underestimate actual conditions in any community. The best procedure would be to review all the public services that will potentially require expansion to accommodate the incoming population. In all cases, the process of examining each public service to determine its capacity in relation to the size of the incoming population will provide local officials with a better feeling for the impact of a new development on public services.

Table 2. Revenue sources potentially affected by community population growth.

Revenue Source	current revenue (a)	current per capita revenue (b)	size of incoming population (c)	change in revenue (b x c)	date revenue will be available to spend
Local					
real property tax					
personal property tax					
permits					
fines					
service fees					
user charges					
development fees					
hookup charges					
prepayment of taxes					
negotiated impact payments from development					
other					
State					
motor vehicle tax					
liquor tax					
cigarette tax					
sales tax					
grants-in-aid					
severance tax					
other					
Federal					
revenue-sharing					
grants					
federal en-lieu payments					
special programs					
other					

The Impact of Growth on Revenues

Revenues that may be affected by growth depend on institutional arrangements in each community. Therefore, just as with estimation of costs, a checklist should be developed of revenues that are expected to change. Each type of revenue can be analyzed to assess whether it will be generated by the incoming population or by the existing population. Table 2 presents a checklist of potential revenue sources, separated into categories by level of government.

Local property taxes are likely to be the primary source of new revenue. These include taxes on new development (e.g., the plant and equipment if it is an industry, or the new houses if it is a residential development), as well as taxes on any indirect or secondary development (housing and commercial) resulting from the initial development. Communities should recognize, however, that new property tax revenue lags behind the need for expenditures. This is due to the fact that new construction does not go on the tax roll immediately, and there is an additional lag in the receipt of the tax revenue after the new development is on the tax roll.

Other revenue sources include service charges for sewer and water hook-ups, as well as other fees. Communities have varying methods of financing services—such as the extension of sewer and water lines and roads and sidewalks—within a new subdivision. If the developer or home buyer is required to pay the full cost of installing any of these services, then these items should not be considered costs to the existing community. In fact, the stipulation that new residents (or the developer) be required to pay for the installation of utilities and roads may be one method of mitigating the impact of development on a community. Careful attention should be paid, however, to any agreements between the developer and the community with respect to operation and maintenance of the facilities after the development is completed. Will the new residents be required to pay the full cost of operating the sewage treatment plant over time, or will general funds be required?

If general funds must be used to operate and maintain any developer-installed service, then this represents a continuing cost to existing residents. This is

especially important in the case of poor facility design or below-standard construction. Community action is important to ensure that the developer provides well-designed facilities that meet all current and expected local, state, and federal requirements.

Financing

If the community will need to expand capital facilities, institutional arrangements may again play an important role in determining the benefits and costs of growth. For example, two types of bonds are commonly used to finance capital improvements such as expanded sewage treatment facilities or water systems. If general obligation bonds are used, all members of the community—new and existing residents—will pay for the facility because community tax revenue is obligated for the capital improvement. Alternatively, special districts can be set up so that only revenue from the new residential district pays the bond (revenue bonds).

Information on the need for additional capital facilities generated by a development may assist the community in negotiating directly with the new industry or developer for special impact funds. Payment of these funds can be tied to issuance of any building permits—an additional method of assuring that the developer or source of impact bears the cost of providing public services for the development.

There are many different institutional arrangements between state government and local communities that affect revenue sources. Some states levy special severance taxes on coal mines and electrical generating plants. The revenue is then shared by the impacted area and the state. For example, the state may bear some of the costs of providing education contingent on the ability of the local community to bear those costs. If a new development generates sufficient tax revenue, the local share of state revenue for education may actually be reduced. Revenue from state taxes such as sales, income, cigarette, and motor vehicle taxes may be shared with local communities, based on either the community's population or revenue generated within the community. In either case, the local share of state revenue may increase with community growth.

Finally, the community may benefit from federal revenue-sharing funds, as well as other federal funds for specific services (such as education). These sources will vary over time and depend on the nature of the development, as well as the ability of the community to acquire funds. Often, the state tax office, the regional council-of-governments (COG), or the Extension Service can provide information on available federal funds.

Once the community has considered all potential sources of revenue and all public services that will require increased expenditures, effective planning for the impacts of growth can take place.

Summary

There are no set methods of assessing the costs and revenues associated with community growth.

Costs will vary widely depending on the initial size of the community, the capacity of existing services, the type of development, and available methods of financing public services. Revenues may also vary, depending on the type of population moving in, the existing local tax structure, and institutional arrangements available to the community for funding capital improvements.

The initial fiscal impact assessment must be carried out by local officials who are most familiar with existing public services and revenue sources. The elected officials may need help in asking the right questions—and knowing where to go for answers to the more difficult questions. Possible sources include the Extension Service, COG, or private consultants.

Costs and benefits fall on different members of a community. Benefits are often recognized by those expecting to gain directly from growth—such as a developer or an incoming industry—and are therefore generally well-documented. Costs, on the other hand, are difficult to quantify and are generally distributed over a greater number of individuals. For example, if an electric generating plant is scheduled for construction in or near a community, one relevant question is: Will taxes on the plant and fees and property taxes from the new residents be sufficient to pay for required services—and be available when needed? If not, existing residents might be required to bear the cost through increased taxes.

Careful investigation will point up potential costs—and the distribution of those costs—for both capital expenditures and increased operating/maintenance costs associated with community growth.

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- Evaluating Fiscal Impact Studies: Community Guidelines
- Minimizing Public Costs of Residential Growth
- Coping with Rapid Growth: A Community Perspective
- Citizen Involvement Strategies in Community Growth Issues
- Interagency Coordination and Rapid Community Growth
- The Public Policy Process: Its Role in Community Growth
- Economic Multipliers: Can a Rural Community Use Them?
- Incoming Population: Where Will the People Live?
- Social and Cultural Impact Assessment
- Growth Impacts on Public Service Expenditures: Some Questions for the Community
- Programming Capital Improvements
- Rapid Growth: Impacts on County Governments
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